

## Title (en)

Flame-hydrolysis for the production of titanium dioxide powder

## Title (de)

Flammenhydrolyse zur Herstellung von Titandioxidpulver

## Title (fr)

Hydrolyse à la flamme pour la production de poudre de dioxyde de titane

## Publication

**EP 1697260 B1 20120711 (EN)**

## Application

**EP 04798064 A 20041124**

## Priority

- EP 2004013317 W 20041124
- DE 10357508 A 20031203
- DE 102004055165 A 20041116

## Abstract (en)

[origin: WO2005054136A1] Flame-hydrolytically produced titanium dioxide powder that is present in the form of aggregates of primary particles, and has a BET surface of 20 to 200 m<sup>2</sup>/g, a half width (HW) [nm] of the primary particle distribution of  $HW = a \times BETf$  where  $a = 670 \times 10^{-9} \text{ m}^3/\text{g}$  and  $-1.3 \leq f \leq -1.0$  and the proportion of particles with a diameter of more than 45 μm lies in a range from 0.0001 to 0.05 wt.%. The powder is produced by a process in which a titanium halide is vapourised at temperatures of less than 200°C, the vapours are transferred to a mixing chamber by means of a carrier gas of defined moisture content and, separately from this, hydrogen, primary air, which may optionally be enriched with oxygen and/or preheated, and steam are added to the mixing chamber, following which the reaction mixture is combusted in a reaction chamber sealed from the ambient air, secondary air is in addition introduced into the reaction chamber, the solid is then separated from gaseous substances, and following this the solid is treated with steam. The titanium dioxide powder may be used for the heat stabilisation of polymers.

## IPC 8 full level

**C01G 23/07** (2006.01); **A61K 8/29** (2006.01); **A61Q 17/04** (2006.01); **B01J 21/06** (2006.01); **B01J 35/00** (2006.01); **B01J 35/10** (2006.01); **B01J 37/02** (2006.01); **B01J 37/10** (2006.01); **C08K 3/22** (2006.01); **C09K 3/14** (2006.01)

## CPC (source: EP KR US)

**A61K 8/29** (2013.01 - EP US); **A61Q 17/04** (2013.01 - EP US); **B01J 21/06** (2013.01 - KR); **B01J 21/063** (2013.01 - EP US); **B01J 35/39** (2024.01 - EP US); **B01J 37/0238** (2013.01 - EP US); **B01J 37/10** (2013.01 - KR); **B82B 1/00** (2013.01 - KR); **B82Y 30/00** (2013.01 - EP US); **C01G 23/07** (2013.01 - EP KR US); **C08K 3/22** (2013.01 - EP US); **C09K 3/1409** (2013.01 - EP US); **B01J 35/613** (2024.01 - EP US); **B01J 35/615** (2024.01 - EP US); **C01P 2004/64** (2013.01 - EP US); **C01P 2006/10** (2013.01 - EP US); **C01P 2006/12** (2013.01 - EP US)

## Cited by

EP4064386A1; US12015144B2

## Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LU MC NL PL PT RO SE SI SK TR

## DOCDB simple family (publication)

**WO 2005054136 A1 20050616**; EP 1697260 A1 20060906; EP 1697260 B1 20120711; JP 2007515368 A 20070614; JP 4445972 B2 20100407; KR 100712157 B1 20070502; KR 20060086451 A 20060731; RU 2006123435 A 20080120; RU 2344994 C2 20090127; UA 83096 C2 20080610; US 2007144076 A1 20070628; US 7686881 B2 20100330

## DOCDB simple family (application)

**EP 2004013317 W 20041124**; EP 04798064 A 20041124; JP 2006541842 A 20041124; KR 20067010899 A 20060602; RU 2006123435 A 20041124; UA A200607230 A 20041124; US 58032504 A 20041124